

Matter

Overview Sheet

Essential Question

How do we describe matter?

Vocabulary

matter	physical property	chemical property	disposition
gas	plasma	liquid	vaporization
melting	freezing	sublimation	condensation
chemical change	physical change	solid	phase change
Absolute Zero	evaporation/boiling	Bose-Einstein Condensate	atoms
mixture	heterogeneous mixture	homogeneous mixture	molecule
compound	ionization	density	

Learning Targets

(Objectives)

1. Identify and describe the two characteristics of all matter
2. Identify the significance of atoms
3. Compare and contrast the results of atomic bonding (compounds & molecules)
4. Describe a mixture and the two main types (heterogeneous and homogenous)
5. Differentiate between the physical and chemical properties of matter
6. Describe the five states of matter and how they differ at the molecular level
7. Describe how energy (heat) affects the particles that make up matter
8. Describe density and how to use the density formula to calculate it
9. Name and describe the processes that occur as matter undergoes phase changes (freezing, melting, evaporation/vaporization, sublimation, condensation, disposition, ionization)
10. Identify examples of physical and chemical changes

Helpful Websites

- http://www.chem4kids.com/files/matter_intro.html (overview)
- http://www.chem4kids.com/files/atom_intro.html (atoms)
- <http://education.jlab.org/atomtour/> (atoms)
- <http://education.jlab.org/qa/compound.html> (compounds and molecules)
- http://schoolhouse1.fenn.org/dduane/Science8th/text_chapter_8.htm (mixtures)
- <http://www.school-for-champions.com/chemistry/mixtures.htm> (mixtures)

More on back



- <http://www.fossweb.com/modules3-6/MixturesandSolutions/index.html> (mixtures & solutions + interactive - "Junkyard Analysis")
- <http://www.harcourtschool.com/activity/mixture/mixture.html> (mixtures lab + interactive)
- <http://www.school-for-champions.com/science/matterstates.htm> (3 phases)
- <http://cwx.prenhall.com/petrucci/chapter1/medialib/0105.html> (3 phases of water + animations)
- <http://www.scienceclarified.com/Ma-Mu/Matter-States-of.html> (phases of matter + overview)
- http://www.visionlearning.com/library/module_viewer.php?mid=120&l=&c3= (phases of matter + animations)
- <http://www.dac.neu.edu/physics/b.maheswaran/phy1121/data/ch04/anim/anim0402.htm> (phases of matter + animations)
- <http://www.miamisci.org/af/sln/phases/> (heat & 3 phases of matter + animations)
- http://www.harcourtschool.com/activity/states_of_matter/ (heat & 3 phases of matter + animations)
- <http://id.mind.net/~zona/mstm/physics/mechanics/energy/heatAndTemperature/changesOfPhase/changeOfState.html> (changing phases of matter)
- http://www.school-for-champions.com/science/matterstates_changing.htm (changing phases of matter)
- http://www.chem4kids.com/files/matter_changes.html (phase changes + overview)
- <http://www.dac.neu.edu/physics/b.maheswaran/phy1121/data/ch04/anim/anim0405.htm> (phase changes + animations)
- <http://www.dac.neu.edu/physics/b.maheswaran/phy1121/data/ch04/anim/anim0406.htm> (sublimation video)
- <http://www.plasmas.org/> (plasma)
- <http://www.explorelearning.com/index.cfm?method=cResource.dspDetail&ResourceID=30> (plasma)
- http://www.spaceweathercenter.org/amazing_plasmas/01/mattersorter.html (plasma + interactive)
- <http://www.colorado.edu/physics/2000/bec/> (BEC + Absolute Zero)
- http://www.absolutezerocampaign.org/get_involved/resources/topic_quest4_zero.htm (Absolute Zero)
- http://www.edinformatics.com/math_science/mass_volume_density.htm (mass + volume + density)
- <http://www.usetute.com.au/density.html> (density)
- <http://www.learner.org/channel/courses/essential/physicalsci/session4/closer.html> (videos)
- http://virtual.yosemite.cc.ca.us/lmaki/Chem150-99/chapters/chapter1/lessons/phys_chem/phy_c_1.htm (interactive lesson - physical and chemical changes)
- <http://cwx.prenhall.com/petrucci/chapter1/medialib/tutor/f20/0103.html> (chemical and physical change + animations)
- http://www.bbc.co.uk/schools/scienceclips/ages/10_11/rev_irrev_changes.shtml (reversible and irreversible changes)
- <http://www.fordhamprep.org/gcurran/sho/sho/lessons/lesson15.htm> (physical and chemical changes)
- <http://www.mcwdn.org/chemist/pcchange.html> (physical and chemical changes)
- <http://www.quia.com/rr/38085.html> (review game)
- <http://www.smaphysics.ca/senior1/chemistry/chemtests/physchem.html> (quiz)
- <http://www.nisd.net/secww/science/science-taks/quiz14/physical%20quiz.htm> (quiz)
- <http://www.teacherbridge.org/public/bhs/teachers/Dana/chemphys.html> (quiz)
- http://www.1001-periodic-table-quiz-questions.com/quiz/k-12/change_1.html (quiz)
- <http://www.glencoe.com/qe/science.php?qi=384> (quiz)
- <http://www.vtaide.com/png/matter.htm> (quiz)
- <http://www.fordhamprep.org/gcurran/sho/sho/review/rev15b.htm> (quiz)
- <http://www.quia.com/quiz/303980.html> (quiz)
- http://higherred.mcgraw-hill.com/sites/0078600510/student_view0/unit4/chapter15/section_2_self-check_quiz-eng_.html (quiz)
- http://science.nasa.gov/headlines/y2002/20mar_newmatter.htm*
- http://science.nasa.gov/headlines/y2004/12feb_fermi.htm*

*You are not responsible for this information, it was just interesting